

REMARKS

INTRODUCTION:

Claims 1-39 are pending and under consideration.

CLAIM REJECTIONS:

1. Rejection of Claims 1, 2, 4-11, 13-15, 18-21, 23, 25, 27-35 and 39 (Yamamoto and Heyman et al.)

Claim 1 recites "a compensating unit . . . being formed of a material having a lower thermal expansion coefficient than that of the first and second resilient support members." Thus, tension in the mask is not reduced during an annealing process due to a difference in thermal expansion between the mask and the resilient support members. Present Specification, page 11.

The Examiner admits that Yamamoto does not teach the compensating unit having the lower thermal expansion coefficient. Instead, the Examiner relies upon Heyman et al. as teaching this feature. However, it is respectfully submitted that the Examiner's combination is not proper. Yamamoto would not benefit from different expansion coefficients, and thus there would have been no motivation to incorporate this feature into Yamamoto.

Yamamoto teaches a body tension regulating jig 18 including inside and outside fastening nuts 18f, 18b and a tension regulating bolt 18i. The body tension regulating jig 18 is applied to the frame 3 after the blackening process in order to recover tension that has already been lost. Thus, instead of preventing the loss in tension during the blackening process, Yamamoto allows the loss of tension to occur, and then takes action to recover the tension after it is lost. Thus, this reference differs from the invention of claim 1, which uses the different thermal coefficients to prevent the loss of tension so that such recovery is not necessary.

Since Yamamoto has the tension regulating jig 18 to recover the tension, the different thermal coefficients taught in Heyman et al. would not provide any result that is not already achieved. Furthermore, the different thermal coefficients would not provide Yamamoto's desired goal of restoring tension after the blackening. Accordingly, there would have been no motivation to use the different thermal coefficients of Heyman et al. in the structure of Yamamoto.

Claim 2 depends from independent claim 1 and recites that the compensating unit

comprises a pair of flat bars having ends fixed to supports of the resilient support members. According to the Examiner, this is a matter of design choice that does not achieve any of the stated problems. Applicants respectfully disagree.

Page 11 of the present specification states that the compensating unit is provided in order to prevent tension in the mask 110 from decreasing due to plastic deformation of the mask 110 caused by a difference in thermal expansion between the mask 110 and the resilient members 123 and 124. Again, it is noted that the stated goal is to prevent the decreased tension, not to compensate for the decreased tension after it has occurred. Contrary to the Examiner's assertion, this goal is achieved by the flat bars.

In contrast, Yamamoto recovers tension that is already lost by using bolts and screws, inserted after the blackening. The claimed flat bars could not be inserted into Yamamoto after the blackening process due to physical limitations imposed by the frame members 3a, 3b of this reference. Thus, the use of the claimed flat bar in Yamamoto is more than mere design choice. Instead, the present arrangement and Yamamoto have entirely different timings with respect to coping with the lost tension, which accounts for the different structures.

Other dependent claims recite features of the compensating unit that are also not taught in the cited references. For example, claim 6 recites first and second brackets. Claims 4, 5, 9 and 10 recite bars.

Claim 11 depends from claim 1 and recites that a thermal coefficient of the mask is greater than that of the compensating unit and equal to or greater than that of the first and second resilient support members.

The Examiner relies upon column 3, line 29 to column 4, line 4 of Heyman et al. as teaching these features. This portion states that the upper portions 44 and the lower portions 46 have different thermal coefficients of expansion. Heyman et al., col. 3, ln. 29-34. However, these features of Heyman et al. do not pertain to the thermal coefficient of the mask.

Heyman et al. further states that the tension mask 24 and the intermediary members 48 are made of a material "that has a relatively low coefficient of thermal expansion." Heyman et al., col. 4, ln. 1-4. Thus, this portion teaches that the mask has a low coefficient of expansion, whereas claim 11 recites that the mask has a thermal coefficient which is greater.

Independent claims 13, 23 and 39 are patentable over Yamamoto and Heyman et al. at least for similar reasons as discussed with respect to claim 1.

Accordingly, withdrawal of the rejection is requested.

2. Rejection of Claims 3, 16-17, 24 and 36-38 (Yamamoto, Heyman et al. and Ichigaya et al.)

It is respectfully submitted that Ichigaya et al. does not overcome the above deficiencies in Yamamoto and Heyman et al., and is not relied upon by the Examiner for this purpose.

3. Rejection of Claims 12, 22 and 26 (Yamamoto, Heyman et al. and Kim et al.)

It is respectfully submitted that Kim et al. does not overcome the above deficiencies in Yamamoto and Heyman et al., and is not relied upon by the Examiner for this purpose.

CONCLUSION

There being no further outstanding objections or rejections, it is submitted that the application is in condition for allowance. An early action to that effect is courteously solicited.

Finally, if there are any formal matters remaining after this response, the Examiner is requested to telephone the undersigned to attend to these matters.

If there are any additional fees associated with filing of this response, please charge the same to our Deposit Account No. 19-3935.

Respectfully submitted,

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